

In the United States Patent and Trademark Office

Serial Number:	10/728779		
Application. Filed:	December 8, 2003		
Applicant:	Kia Silverbrook		
Application Title:	HEAT DISSIPATION WITHIN THERMAL INK JET PRINTHEAD		
Examiner/GAU:	Jason S Uhlenhake	2853	
	Dated	June 19, 2007	
	At:	Balmain, NSW	
	Docket No.	MTB14US	

REPLY

Commissioner for Patents
Washington, District of Columbia 20231

Dear Sir:

The Applicant thanks the Examiner for the Final Office Action dated May 1, 2007.

Claim Rejections – 35 USC 103(a)

The Applicant contests the Examiner's reasoning that the skilled person would have been motivated to combine the disclosures of Kubby and Campbell.

As already argued by the Applicant, Kubby clearly teaches a suspended heater element which is *perpendicular* to the plane of the nozzle plate (see Figure 5). A problem with Kubby's arrangement is that ink droplets would be ejected at a skewed angle relative to the nozzle plate. This problem is avoided in the present invention, because the suspended cantilever beam heater element is arranged *parallel* with the nozzle plate.

Kubby evidently had it in mind that his perpendicular arrangement would not impede ink flow through the nozzle, but this is at the expense of skewed ink ejection. However, the present Applicant has understood that ink flow is not compromised if suspended heater elements are configured appropriately.

The Examiner introduced Campbell into proceedings, apparently because Campbell teaches a resistive heater element arranged *parallel* with the nozzle plate. This introduction of new prior art to illustrate this point hardly seems necessary, given that Kubby also teach a resistive heater element arranged parallel with the nozzle plate (see Figure 2 of Kubby).

The Applicant accepts that such arrangements were known for inkjet nozzles where the heater element is not surrounded on both faces by ink.

However, embedded heater elements, such as those taught by Campbell, give no clues to the skilled person as to how he might arrange a suspended heater element. The only teaching of a truly suspended heater element that can be found in the prior art is Figure 5 of Kubby and this is clearly teaching an arrangement where the heater element is perpendicular to the nozzle plate, presumably so as not to impede ink flow.

The skilled person would have known of alternative heater element arrangements (*e.g.* from Figure 2 of Kubby), but would not be motivated to adopt these because he has concerns, as Kubby evidently did, about ink flow to the nozzle.

Kubby is teaching the skilled person that heater elements parallel to the nozzle plate are efficacious only if the heater element is not fully surrounded by ink. Campbell does not teach the skilled person any differently. Campbell's heater element is also not fully surrounded by ink.

In short, there is nothing in the prior art teaching the skilled person to arrange a heater element as specified in the present claims. Accordingly, it is submitted that the present invention is not obvious in view of Kubby, either taken alone or in combination with Campbell.

It is respectfully submitted that all of the Examiner's objections have been successfully traversed. Accordingly, it is submitted that the application is now in condition for allowance. Reconsideration and allowance of the application is courteously solicited.

Very respectfully,

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